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ABSTRACT

The purpose of this study was to investigate the use of the newspaper as instructional material to promote classroom verbal interaction. Eight experimental classes (two each of tenth-grade English, sixth-grade reading and algebra, and eleventh-grade American history) used the newspaper for one week as an instructional tool to reach previously established instructional objectives. Four control classes (one each of the same subjects) did not use the newspaper. Significant changes in amount and quality of students' talk occurred in the experimental classes. (Author/KS)

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Basic Interaction:

An Experiment in Improving Its Quality and Quantity

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Abstract

The purpose of this study was to investigate the use of the newspaper as instructional material to promote classroom verbal interaction. Eight experimental classes (two each of tenth grade English, sixth grade reading, algebra, and eleventh grade American history) used the newspaper for one week as instructional material to reach the same previously established instructional objectives while four control classes (one each of the same subjects) did not. Significant changes in amount and quality of student talk occurred in the experimental classes.

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Basic Interaction:
An Experiment in Improving its Quality and Quantity

Rationale

The newspaper has been used for instruction in an increasing number of classrooms during the past several years. Usually the rationale for its use has been its availability, its ability to relate the classroom to the real world, its current date, and its importance in developing an informed citizenry. This study, however, looks at another possible reason for using it as instructional material. That reason is its potential as instructional material to improve basic communication skills--to promote student talk.

"Use of the newspaper as instructional material" in this paper means its use in teaching whatever is normally taught in the classroom--its use to assist

students in reaching previously established instructional objectives in the various subject areas. It does not refer to the teaching of a "newspaper unit" or to journalism or to free reading and discussion of the newspaper.

Hypothesis

A significant change in classroom verbal interaction of students occurs when the newspaper is used as instructional material.

Procedures

The sample consisted of twelve teachers and their classes in the Pasadena, Texas, Independent School District. Teachers, chosen by their subject area supervisors as representative examples of successful teachers, were from the following subject areas: mathematics, reading, social studies, and English. Five schools were involved in the study. Each of the twelve classes was assigned to the control group or to one of two experimental groups, with each sample group being composed of one reading class, one English class, one mathematics class, and one social studies class. Members of the three sample groups were matched in terms of socio-economic status, geographic location, and student ability levels. In addition they were paired by subject and grade levels. (sixth grade reading, tenth grade English, algebra, eleventh grade American history).

The control group (C) was restricted to regular textual materials and was not allowed to use the newspaper as instructional material. One of the experimental groups (E_1) used the newspaper as supplemental material while the second experimental group (E_2) relied exclusively on the newspaper as instructional material.

Before the introduction of the newspaper as instructional material in the experimental groups, all twelve classes were pre-tested to obtain an initial student-talk proportion by audio-taping a 20 minute interaction segment in each classroom using regular instructional materials.

As the instructional treatment, the newspaper was introduced into the classroom curriculum of E_1 as supplemental material and into the classroom curriculum of E_2 as the only instructional material for a period of one week.

At the end of a week's instructional period a post assessment was made by taking a second audio-tape of the same classes. The control group was re-taped during a discussion period using the regular text. The experimental groups were post taped during a class interaction session using the newspaper as instructional material.

The two audiotapes (pre-test and post test) for each class were analyzed and evaluated according to the Flanders' Interaction Analysis Scales to determine changes in the proportion of student verbal interaction. The ratio used for evaluation was $S/T = \frac{\text{Student Talk}}{\text{Total Interaction}} = \frac{\text{Categories 8-9}}{\text{Categories 1-10}}$. The more commonly used teacher-ratios and teacher verbal patterns were referred to only for elaboration of results.

The following formula was used to compare changes and to determine if those changes were significant:

$$z = \frac{P_1 - P_2}{\sqrt{\frac{p(1-p)}{N_1} + \frac{p(1-p)}{N_2}}}$$

where the value of p under the radical is computed as

$$p = \frac{N_1 P_1 + N_2 P_2}{N_1 + N_2} .$$

P_1 = Proportion of Student Talk in post test audiotape.

P_2 = Proportion of Student Talk in pre-test audiotape.

N_1 = Total number of interaction tallies in post test.

N_2 = Total number of interaction tallies in pre-test.

Findings

Significant changes which occurred in the two experimental groups using newspapers appear on Table 1. All eight experimental classrooms showed an increase in the proportion of student verbal participation after the introduction of the newspaper as instructional material. Six of the eight at least doubled or tripled in the proportion of student talk.

(Insert Table 1)

No significant changes in student verbal interaction occurred in the control group. One of the four classrooms showed an increase in student talk, one showed no change at all, and the other two experienced a decrease in proportion of student talk between pre-test and post test situations.

Significant increases in the proportion of student talk occurred in classes using the newspaper in comparison with classes using regular textual materials in pre-test/post test situations. Comparisons of the proportion of

student verbal participation in class discussion for the pre-test and the post test analysis of all three groups appear in Table 2. Pre-test comparisons show that the proportion of student talk was significantly greater in the E_2 group than in either the control group (C) or the E_1 group, with the greatest difference being between E_2 and C. While no significant difference existed between E_1 and C during the pre-test, a significant difference was established during the post test. The difference between E_2 and C increased even more during the post test. The margin between groups E_1 and E_2, however, reversed. During the pre-test assessment, students in E_2 classes were significantly more verbal than their counterparts in the E_1 group. According to the research design, members of the E_1 group used the newspaper as supplemental material while the E_2 members relied on it as the only instructional material. Post test comparisons showed the E_1 group to have overtaken the pre-test lead held by E_2 and to have done so at the .05 level of significance.

(Insert Table 2)

Conclusion

Results of this study support the research hypothesis: A significant change occurs in the classroom verbal interaction of students when the newspaper is used as instructional material.

Discussion

Although it was not within the statistical scope of this study to compare the quality of student verbal interaction, several trends became apparent and deserve mention. The Flanders interaction matrix indicated that the types of questions asked with regular textual materials in the pre-test situations

were primarily ones of factual recall and recognition. Students responded to these low order questions with short repetitions of textual statements, offering little evidence of individual thought or opinion. On the post test teachers in the experimental groups allowed students to make judgements, to have differences of opinion, and to resolve issues through the use of open ended, higher order questions. Seven of the eight classes in the experimental groups showed gains in the proportion of student-initiated talk while one of the eight classes in the control group showed such gains.

The investigators suggest further investigation along the following lines: (1) A study investigating relationships between use of the newspaper as instructional material and achievement of previously established instructional objectives in the various subject areas; (2) Research to assess the quality and patterns of verbal involvement changes accompanying use of the newspaper in the classroom and its relationships to student growth and achievement; (3) A longitudinal study similar to this one; and (4) An investigation of possible changes in attitude toward self, school, and subject under similar circumstances in a longitudinal study.

Selected Bibliography

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Note. FIAS grids for experimental and control groups are available from the authors (University of Houston, C&I, Houston, Texas 77004) or from Educational Services, The Houston Post, Houston, Texas 77001.

Table 1

Proportion of Student Verbal Participation in Each Class

Subject	$ST/N_1 = P_1$		$ST/N_2 = P_2$			Level of Significance
	E_1--Newspaper as Supplemental Material					
Social Studies	68/150	.45	35/150	.24	3.82	.001
Reading	153/240	.64	76/240	.315	7.39	.001
Mathematics	124/240	.52	63/240	.26	5.91	.001
English	161/300	.54	49/300	.16	9.74	.001
	E_2--Newspaper as Exclusive Instructional Material					
Social Studies	39/127	.31	29/127	.23	1.45	n.s.
Reading	157/255	.61	95/255	.37	5.45	.001
Mathematics	179/350	.51	63/350	.18	9.17	.001
English	95/200	.47	93/200	.465	.10	n.s.
	C--Control Group					
Social Studies	30/180	.17	40/180	.22	-1.22	n.s.
Reading	68/146	.465	68/146	.465	0	-
Mathematics	102/366	.27	76/366	.21	1.84	n.s.
English	26/215	.12	40/300	.13	- .33	n.s.
	Group Summations					
E_1 Papers (Supplemental)	506/930	.54	223/930	.24	13.04	.001
E_2 Papers (Exclusively)	470/932	.50	280/932	.30	8.70	.001
C Control	226/907	.25	224/992	.23	1.00	n.s.

Table 2

Pre-Test/Post Test Comparisons
of Proportion of Student Verbal Participation between Groups

ST/N_1	P_1	ST/N_2	P_2	z	significance
		Pre-test Comparisons			
Newspaper(Sup.) E_1		Control (C)			
223/930	.24	224/992	.23	.50	n.s.
Newspaper(Exc.) E_2		Control (C)			
280/932	.30	224/992	.23	3.50	.001
Newspaper(Exc.) E_2		Newspaper(Sup.) E_1			
280/932	.30	223/930	.24	3.00	.01
		Post Test Comparisons			
Newspaper (Sup.) E_1		Control (C)			
506/930	.54	226/907	.25	11.60	.001
Newspaper (Exc.) E_2		Control (C)			
470/932	.50	226/907	.25	10.00	.001
Newspaper (Sup.) E_1		Newspaper (Exc.) E_2			
506/930	.54	470/932	.50	2.40	.05